SYLVANIA

engineering data service

MECHANICAL DATA

Bulb	T-6 ½
Base	E9-1, Miniature Button 9-Pin
Outline	6-3
Basing	9HF
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

	6DE7	10DE7	13DE7	
Heater Voltage (ac or dc)	6.3	9.7	13.0 Volts	
Heater Current	900	600	450 Ma	
Heater Warm-up Time[1]	—	11	11 Seconds	
Heater-Cathode Voltage (Design Maximum Values)[2]				
Heater Negative with Respect to Cathode				
Total DC and Peak			200 Volts	Max.
Heater Positive with Respect to Cathode				
DC			100 Volts	Max.
Total DC and Peak			200 Volts	Max.

DIRECT INTERELECTRODE CAPACITANCES (Approx.)

	Triode No. 1	Triode No. 2
Grid to Plate	4.0	8.5 μμf
Input: g to (h + k)	2.2	5.5 μμf
Output: p to (h + k)	0.52	1.0 μμf

RATINGS[2] (Design Maximum Values—Except as Noted)

Vertical Deflection Oscillator and Amplifier[3]

	Triode No. 1 Oscillator	Triode No. 2 Amplifier	
DC Plate Voltage	330	275 Volts	Max.
Peak Positive Pulse Plate Voltage (Abs. Max.)	—	1500 Volts	
Peak Negative Pulse Grid Voltage	400	250 Volts	Max.
Plate Dissipation[4]	1.5	7.0 Watts	Max.
Average Cathode Current	22	50 Ma	Max.
Peak Cathode Current	77	175 Ma	Max.
Grid Circuit Resistance			
Self Bias	2.2	2.2 Megohms	

AVERAGE CHARACTERISTICS

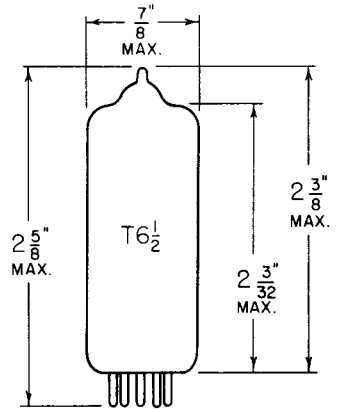
	Triode No. 1	Triode No. 2
Plate Voltage	250	150 Volts
Grid No. 1 Voltage	-11	-17.5 Volts
Plate Current	5.5	35 Ma
Transconductance	2000	6500 μmhos
Amplification Factor	17.5	6.0
Plate Resistance (approx.)	8750	925 Ohms
Grid Voltage for Ib = 10 μa	-20	— Ohms
Grid Voltage for Ib = 50 μa	—	-44 Volts
Plate Current at Ec = -24 Vdc	—	10 Ma
Zero Bias Plate Current		
Eb = 60 V; Ec = 0 (Instantaneous Values)	—	80 Ma

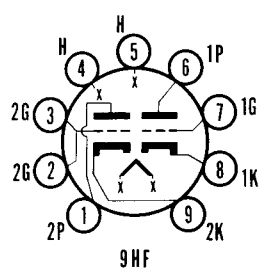
QUICK REFERENCE DATA

The Sylvania Type 6DE7 is a miniature double triode with dissimilar sections. Section No. 1 is intended for use as a Vertical Deflection Oscillator having medium mu and Section No. 2 is intended for use as a Vertical Deflection Amplifier having low mu.

The 10DE7 has a 600 Ma heater and the 13DE7 has a 450 Ma heater. Both types have controlled heater warm-up time and are identical to the 6DE7 except for heater characteristics.

The 10DE7 and 13DE7 are intended for use in television receivers employing series heater strings.





SYLVANIA ELECTRIC PRODUCTS INC.

RADIO TUBE DIVISION
EMPORIUM, PA.

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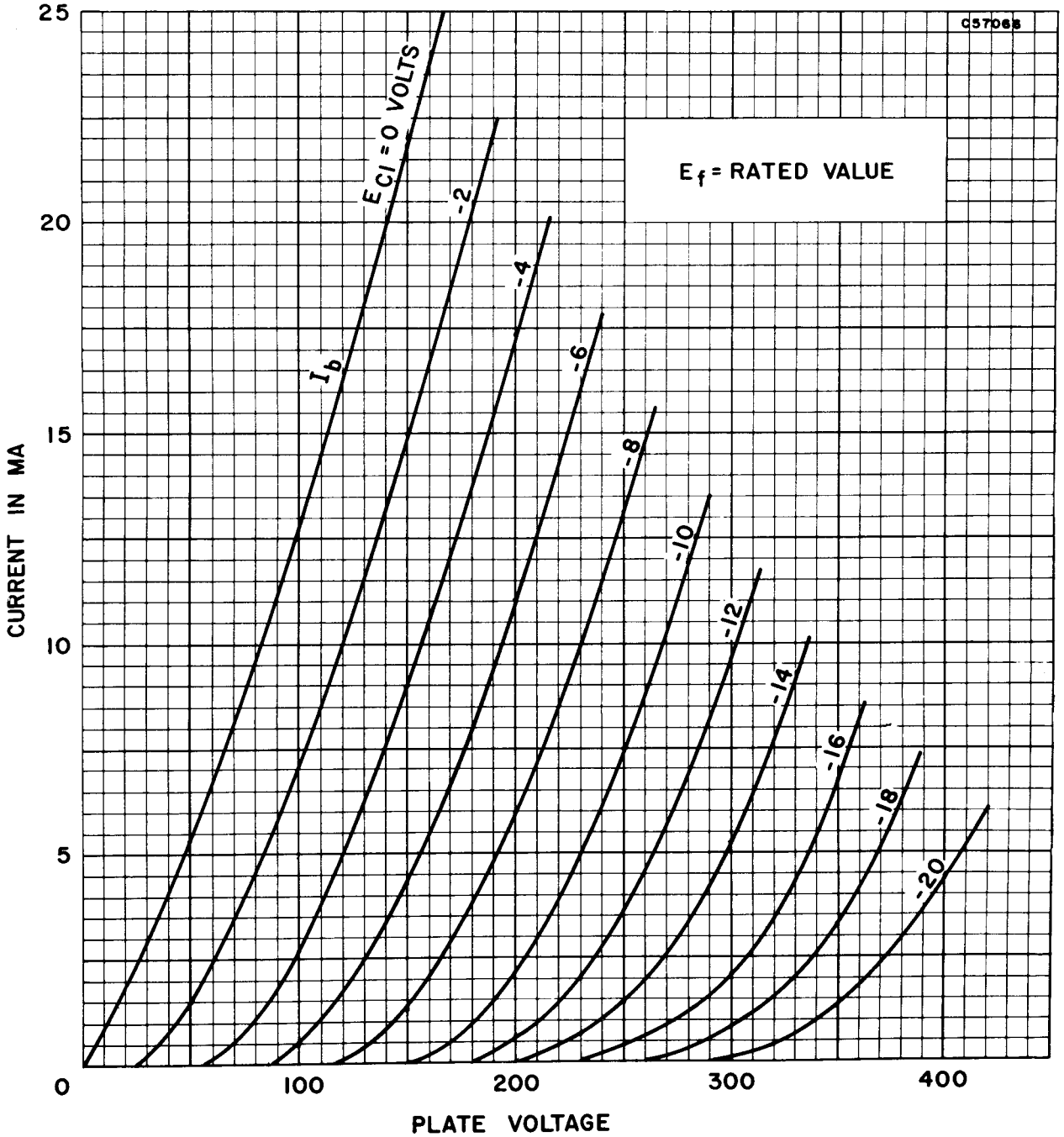
NOTES:

1. *Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.*
2. *Design Maximum Ratings are the limiting values expressed with respect to bogey tubes at which satisfactory tube life can be expected to occur. To obtain satisfactory circuit performance, therefore, the equipment designed must establish the circuit design so that no design-maximum value is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.*
3. *For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Stations; Federal Communications Commission". The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.*
4. *In stages operating with grid leak bias, an adequate bias resistor or other suitable means is required to protect the tube in the absence of excitation.*

AVERAGE PLATE CHARACTERISTICS

(TRIODE No. 1)



AVERAGE PLATE CHARACTERISTICS

(TRIODE No. 2)